

REMARKS

Claims 19-24, 26 and 30-35 are pending in the application. Favorable reconsideration is respectfully requested in light of the following Remarks.

The Office action rejects Claims 19-26 and 30-35 under 35 U.S.C. 102(b) over Donelson et al. (U.S. Patent No. 6,492,053, hereinafter "Donelson"). The rejection is respectfully traversed.

Independent Claim 19 specifies, *inter alia*, a fuel cell assembly (2) comprising a hollow manifold (16) comprising a top wall (18) and a bottom wall (20), said hollow manifold including a sealed fuel passage (10, 12) for allowing fuel to enter and exit said hollow manifold; and a fuel cell (36) comprising an anode (8), a cathode (4) and an electrolyte (6) disposed there between, a portion of one of said top and bottom walls (18, 20) of said hollow manifold forming a side wall (FIG. 1A) in direct contact with said fuel cell such that said fuel cell is coplanar with said hollow manifold, wherein a portion of one of the top and bottom walls (18, 20) of said hollow manifold extending between said fuel cell (36) and said sealed fuel passage (10, 12) forms a compliant structure (26, 28) to accommodate thermal expansion of said fuel cell in the same plane as said hollow manifold. The highlighted feature is illustrated in Figs. 1 and 1A below.

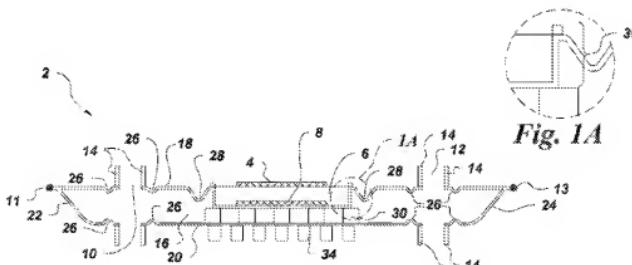


Fig. 1

Donelson discloses a planar fuel cell assembly (10) that includes a pair of interconnect plates (12, 14) with a single fuel cell (16) there between. The fuel cell (16) includes an anode (18), a thin cathode layer (22), and a thin electrolyte layer (20) there between. The interconnect plates (12, 14) are spaced apart by an insulating spacer plate (34) having an opening (36) for receiving the fuel cell (16). Because the insulating spacer plate 34 has a greater thickness than the fuel cell (16), a compression member (32) is disposed between the interconnect plate (12) and the anode layer (18) of the fuel cell (16). The compression member (32) includes outer sheets (38, 40) and a corrugated inner sheet (42). The fuel cell assembly 10 also includes inlet manifolds (50, 54) and outlet manifolds (52, 56). The manifolds (50, 52) communicate with channels (28) in the interconnect plate by way of inlet and outlet passages (58, 60) and distributors (62, 64). See *Figs. 1 and 2* below.

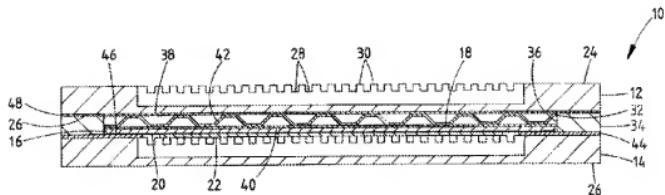


FIG. 1

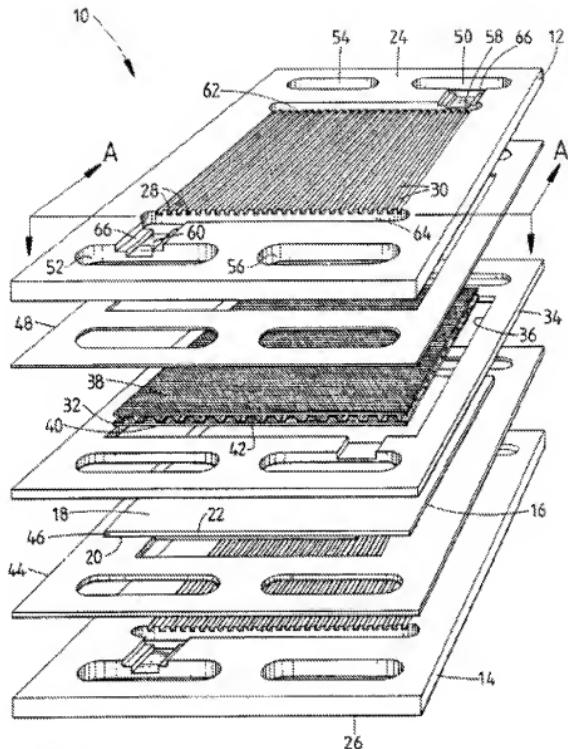


FIG. 2

On Page 3 of the final Office action, the Examiner states:

"a portion of the top wall '34 of the top wall forms a side wall in direct contact with the fuel cell such that the fuel cell is coplanar with the hollow manifold and wherein a portion of the top wall '42 extending between the fuel cell and the sealed fuel passage forms a compliant structure that is capable of

accommodating thermal expansion of the fuel cell in the same plane as the hollow manifold (See Figures 1 and 2 and column 5, line 45 to column 59)."

Applicant respectfully disagrees with this assertion.

In Donelson, a portion of the top wall extending between the fuel cell (indicated by the Examiner as element "16") and the sealed fuel passage (indicated by the Examiner as elements "54, 56") does not form a compliant structure (indicated by the Examiner as element "42") to accommodate thermal expansion of the fuel cell in the same plane as the hollow manifold. Rather, the compliant structure (indicated by the Examiner as element "42") extends between two outer sheets (38, 40) to form the compression member (32), which is not located between the manifold (54, 56) and the fuel cell (16), but rather parallel to the plane of the fuel cell. Thus, the compliant structure (indicated by the Examiner as element "42") does not accommodate for the differences in the thermal expansion coefficients in the same plane between the fuel cell and the manifold, as asserted by the Examiner.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. *See MPEP §2131.* Contrary to the Office action that all of the elements of Claim 19 are disclosed in Donelson, a fuel cell assembly in which at least the feature of a portion of one of the top and bottom walls of a hollow manifold extending between a fuel cell and a sealed fuel passage forms a compliant structure to accommodate thermal expansion of the fuel cell in the same plane as the hollow manifold, is not disclosed, taught or suggested in Donelson, so the rejection is unsupported by the art and should be withdrawn.

Further, it would not have been obvious to modify the fuel cell assembly (10) of Donelson to meet the claimed invention. In Donelson, the purpose of the corrugated inner sheet (42) is to facilitate fuel gas flow across the chamber defined by the opening (36) and to give the compression member (32) a degree of compressibility between the interconnect plate (12) and the fuel cell (16). *See col. 6, lines 63-col. 7, line 10.*

On the other hand, the compliant structure of the invention accommodates the

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difference between the thermal expansion coefficients of the fuel cell and the manifold that are typically made of different materials. To this end, the fuel cell, the compliant structure and the manifold a substantially coplanar with each other, unlike the Donelson fuel cell assembly that can only move in the plane perpendicular to the fuel cell. Thus, one skilled in the art would not look to Donelson and be motivated to modify Donelson to meet the claimed invention.

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of the application is earnestly solicited.

Should Examiner Chuo believe anything further would be desirable in order to place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

It is believed that any additional fees due with respect to this paper have already been identified. However, if any additional fees are required in connection with the filing of this paper, permission is given to charge account number 07-0868 in the name of General Electric Company.

Respectfully submitted,

16 March 2009

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